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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|--------------------------|------------------------|
| 10/662,977 | 09/15/2003 | Dong-yang Lee | 8021-165 (SS-17922-US) | 2257 |
| 22150 7590 02/07/2008 F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797 | | | EXAMINER CHEN, ALAN S | |
| | | | ART UNIT 2182 | PAPER NUMBER |
| | | | MAIL DATE 02/07/2008 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/662,977 | | LEE, DONG-YANG | |
| | Examiner | | Art Unit | |
| | Alan S. Chen | | 2182 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-21 is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some * c) ☐ None of:
 - 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/07 has been entered.

Response to Arguments

2. Applicant's arguments in light of the amendment filed 10/31/07, with respect to claims 9-20 have been fully considered and are persuasive. The prior art rejection of claims 9-20 has been withdrawn.

3. Applicant's arguments in light of the amendment filed 10/31/07 have been fully considered but they are not persuasive with respect to claims 1-8. Examiner's has issued a new rejection on the claims, however is continuing to apply the prior art to Dale et al. Examiner's rebuttal is given below.

4. Applicant first argues that Dale et al. does not show the ports inputting and outputting data from/to "outside the device". Applicant points to Fig. 2 of Dale where the ports A-G are connected to functional modules which Applicant does not construe to be outside the device.

Examiner has been consistent in claims 1 and 5, that the integrated circuit device is equated to Fig. 2, element 200, the PMC, also shown in detail in Fig. 3. The

functional modules, Fig. 2, element 101-109, are therefore outside of the PMC and communicating directly with the ports of the PMC.

5. Applicant next argues that Dale et al. does not teach a monolithic IC.

Examiner will detail the obviousness of having a monolithic IC in the rejection below and show that this is obvious to one of ordinary skill in the art.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-8 are rejected under 35 USC 103(a) as being unpatentable over US Pat. No. 6,574,688 to Dale et al. (*hereafter Dale, cited in the previous Office Action*).

9. Per claim 1, Dale discloses an integrated circuit device (*Figs. 2 and 3, element 200, the port manager controller*) comprising: a first port for inputting write data directly from the outside of the device and outputting read data directly from the outside of the device (*Fig. 2, element 200, any of the ports D-G are all bi-directional; Fig. 3, element*

307 expressly shows this; it is clear data is transmitted/received directly from the outside of the PMC as shown in Fig. 2; external to the PMC are the functional modules and host component which interface the ports of the PMC directly); and a second port for only inputting write data directly from the outside of the device (Fig. 2, element 200, port C; Fig. 3, element 307; Column 5, lines 25-27, port C used for data input only, e.g., write to host), wherein at least one of the first port and the second port is selected by an external command when the write data is input (Fig. 3; Column 5, lines 10-15, each port has a read~write control line, in the case of port C, just a write line; the control line commands the port of port management controller and control signal can be generated external to the PMC).

Per claim 5, Dale discloses an integrated circuit system (Figs. 2 and 3, elements 200 and 101-109 make up a system) comprising: an integrated circuit device (Fig. 2 and 3, elements 200) that includes a first port for inputting write data directly from the outside of the system and outputting read data directly from the outside of the system (Fig. 3, ports D-G are all bi-directional; ports communicate directly external devices outside the system) and a second port for only inputting write data directly from the outside of the system (Fig. 3, element 307; Column 5, lines 25-27, port C used for data input only, e.g., write to host); and a controller (Fig. 2, elements 101-109) for generating a command to select either the first port or the second port (Fig. 2, elements 101-109, function modules generate the control command to the PMC over the control lines shown in Fig. 3 for each port; Column 5, lines 10-15; control line selects whether to use a port or not, e.g., write command tells the port data will be written).

Dale does not disclose expressly the integrated circuit device being a monolithic device.

The Examiner contends that the mere placing of the claimed elements on a single IC is obvious subject matter in light of standard manufacturing process to include things such as "system on a chip", which was not a limiting example. Placing numerous logical components or systems on an IC, wherein the numerous components or systems could exist as separate ICs (i.e. memory, CPU, interface, DC-DC converter), is obvious subject matter, tantamount to the "making integral" of MPEP:

In re Larson, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965) (A claim to a fluid transporting vehicle was rejected as obvious over a prior art reference which differed from the prior art in claiming a brake drum integral with a clamping means, whereas the brake disc and clamp of the prior art comprise several parts rigidly secured together as a single unit. The court affirmed the rejection holding, among other reasons, "that the use of a one piece construction instead of the structure disclosed in [the prior art] would be merely a matter of obvious engineering choice.")

Thus absent a showing of other considerations, applicant has only made integral via a monolithic IC of what was shown to be separate components in Dale et al. As pointed out by *In re Larson*, the use of one piece construction, in this instance an IC, instead of the structure disclosed in the prior art would merely be a matter of obvious engineering choice regarding the level of IC integration, which would, amongst other factors, be driven by space savings, manufacturing costs, energy consumption, and thermal factors.

10. Per claims 3,4,7 and 8, Dale discloses claims 1 and 5, further disclosing both first and second ports are selected by an external command when the write data is input, a control pin receiving the control signal (*Fig. 3, elements 301,303,305 and 309 all can access the ports given a command*).

11. Claims 2 and 6 are rejected under 35 USC 103(a) as being unpatentable over Dale.

Dale discloses claims 1 and 5.

Dale does not disclose expressly the second port for the input write data having half the number of pins of the first port.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to recognize that when Dale is inputting data into the second port over the input pins of the port, then only the write pins/lines will be used.

It is well known to those of ordinary skill in the art that for full-duplex lines (*e.g., both input and output capability*), one must double the number of lines in that of a half-duplex communications (*e.g., only input or only output capability and not both*). Equal number of lines must be given to sending as with receiving data. Given that Dale has the same number of read data lines as write data lines, it is clear that the active lines being used in the second port where the second port is used only for writing data is exactly half of the total active lines/pins being used in the first port which is for both reading and writing.

Allowable Subject Matter

12. Claims 9-21 are allowed.

13. Claim 21 is allowed based on reasons stated in a prior Office Action.

14. The following is the statement of reasons for the indication of allowable subject matter in claims 9-20: The prior art disclosed by the applicant and cited by the Examiner fail to teach or suggest, alone or in combination, ***all*** the limitations of the independent claim(s) (*claims 9 and 16*), particularly a monolithic IC device having a plurality of ports of bidirectional and unidirectional nature, and buffering units associated with the ports, and the ability to select the ports using an external command. While Dale et al. teaches the various logical components in the claim limitations, by making the IC monolithic, the functional modules of Dale et al. would be intermediary between the ports and the outside of the IC device, and therefore data will not directly be inputted or outputted to/from the ports.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan S. Chen whose telephone number is 571-272-4143. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Tsai can be reached on 571-272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ASC
01/25/08

Alan B. Elia
1/25/08